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CAL-2 WATER SUPPLY OUTLOOK FOR MONTANA



U. S. DEPARTMENT of AGRICULTURE ★ SOIL CONSERVATION SERVICE

Collaborating with

MONTANA AGRICULTURAL EXPERIMENT STATION

Data included in this report were obtained by the agencies named above in cooperation with Federal, State and private organizations listed inside the back cover of this report.



TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

Cover Photo: Cabins near Sacajawea Snow Course in Bridger Mountains, Montana.

PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, West Technical Service Center, Room 111, 511 N.W. Proadway, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	204 E. 5th. Ave., Room 217, Anchorage, Alaska 99501
Arizona	6029 Federal Building, Phoenix, Arizona 85025
Colorado (N. Mex.)	P. O. Box 17107, Denver, Colorado 80217
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P.O. Box 98, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1218 S. W. Washington St., Portland, Oregon 97205
Utah	4012 Federal Bldg., 125 South State St., Salt Lake City, Utah 841 38
Washington	360 U.S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 2440, Casper, Wyoming 82601

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P. O. Box 388, Socramento, California 95802 --- and for British Columbia by the Department of Lands, Forests and Water Resources, Water Resources Service, Parliament Building, Victoria, British Columbia

WATER SUPPLY OUTLOOK FOR MONTANA

and FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

Issued by

KENNETH E. GRANT

ADMINISTRATOR
SOIL CONSERVATION SERVICE
WASHINGTON, D.C.

Released by

VAN K. HADERLIE STATE CONSERVATIONIST SOIL CONSERVATION SERVICE Bozeman, Montana

In Cooperation with

J. A. ASLESON

DIRECTOR

Montana Agricultural Experiment Station

Report prepared by

PHILLIP E. FARNES, Snow Survey Supervisor and

BERNARD A. SHAFER, Assistant Snow Survey Supervisor

SOIL CONSERVATION SERVICE F.O. Box 98 Bozeman, Montana 59715



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MONTANA WATER SUPPLY OUTLOOK January 1, 1975

* The mountain snowpack is generally below average over 20 * the entire state. There are a few isolated areas * near average. These are the Hyalite Canyon area in * the Gallatin River drainage, an area near Red Lodge, * portions of the Little Belt Mountains, and the area * along the Montana Idaho line on the west side of the * Bitterroot River drainage. Most areas in the state * have only two-thirds to three-quarters of the normal * snowpack for this time of year. Mountain soils beneath * * the snowpack are generally drier than usual. There are * * some portions in the Gallatin and Yellowstone River * drainages where moisture conditions are near average. x * Soils are frozen in many areas which are not normally % * frozen at this time of year. This is a result of late * snow accumulations and below average amounts of snow-* pack now on the ground. 30 * * Streamflow next spring and summer will be below aver-* * age in most drainages unless precipitation patterns 40 * improve considerably during the succeeding snow % * accumulation months.

COLUMBIA RIVER DRAINAGE

<u>Snow</u> - The early season snowpack is below average in almost all drainages. The west side of the Bitterroot River drainage has near average snowpack. In some areas of the Clark Fork drainage, the January 1 snowpack is approximately one-half the long term average. There were no snow survey measurements made in the Kootenai River drainage. Moisture in the soil beneath the snowpack is generally below average in all drainages.

Streamflow - Volume streamflow forecasts will be released after the completion of the February 1 snow surveys when the snowpack trend has become better defined. Present snowpack would indicate below average runoff can be expected for almost all drainages in this area unless precipitation exceeds the normal amount.



MISSOURI RIVER DRAINAGE

Snow - The mountain snowpack in the majority of the Missouri River drainage is below average. Some places that received heavy snowpack in early winter have remained high. These areas are generally confined to small drainages and presently appear to exist in the Continental Divide area south of Butte, the Hyalite drainage south of Bozeman, and portions of the Little Belt Mountains. Remaining areas of the Missouri River drainage have one-half to three-quarters of the normal snowpack. Soils under the snowpack are generally drier than usual. Exceptions to this condition are the lower portion of the Gallatin River drainage.

YELLOWSTONE RIVER DRAINAGE

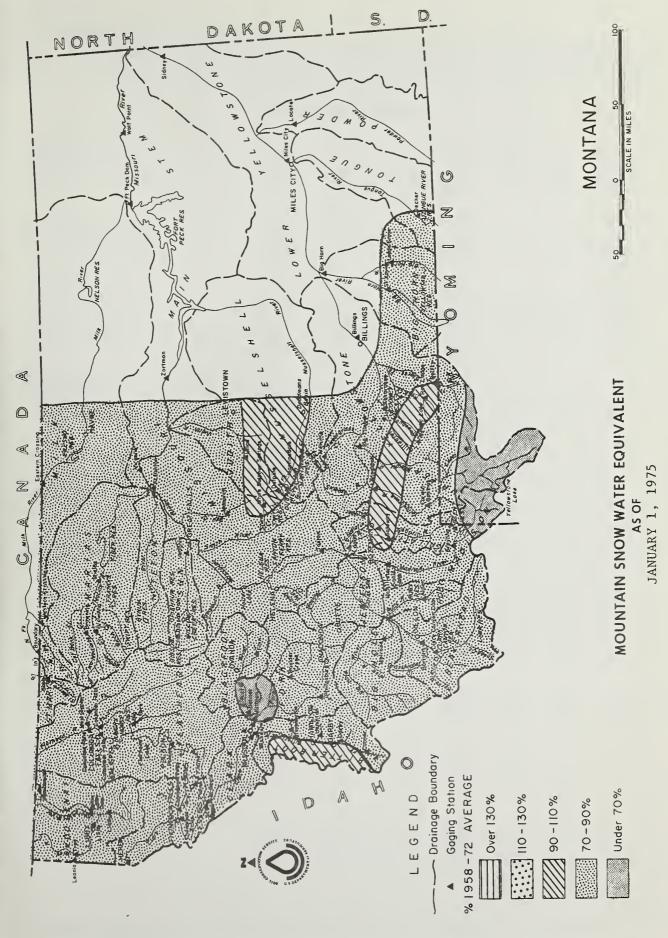
Snow - Snowpack in the headwaters of the Yellowstone River drainage is below average. The one exception is in the vicinity of Red Lodge where early season snowfall has remained and has resulted in a snowpack near average for this time of year. In the headwaters of the Yellowstone River drainage in Yellowstone National Park, most of the snow courses have only about one-half of their normal snowpack for this time of year. Soils are generally drier than normal except in the portion of the Crazy Mountains area. With the present moisture and snowpack conditions, it appears the streamflow for the coming spring and summer months will be below average. Volume forecasts will be released after completion of the February 1 snow surveys when the snow pattern becomes more defined.



UNI 0-VS

MARY of SNOW MEASUREMENTS (COMPARISO RIVER BASIN and/or SUB-WATERSHED COLUMBIA RIVER DRAINAGE Kootenai Flathead Upper Clark Fork Lower Clark Fork Bitterroot MISSOURI RIVER DRAINAGE Jefferson Madison Gallatin Missouri Main Stem Judith-Musselshell	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCE		
	Averaged	Last Year	Average	
COLUMBIA RIVER DRAINAGE				
Kootenai	-	-	eng.	
Flathead	4	63	75	
Upper Clark Fork	9	69	76	
Lower Clark Fork	4	58	79	
Bitterroot	5	65	88	
MISSOURI RIVER DRAINAGE .				
Jefferson	11	71	76	
Madison	8	51	67	
Gallatin	9	78	88	
Missouri Main Stem	7	83	, 81	
Judith-Musselshell	4	88	96	
Marias-Teton-Sun	1	72	69	
Milk (Headwaters)	-	-	-	
YELLOWSTONE RIVER DRAINAGE				
Yellowstone	15	63	72	
Little Big Horn	-	-	-	
, i	-3-			







DRAINAGE BASIN and/or STATION		Prof	ile (Inches)	Date of	Soil Moisture (Inches)			
Name	Elevation	Depth	Capacity	Survey	This Year	Last Year	Average +	
	COLUMBIA	A RIVER	RBASIN					
Kootenai								
Baree Trail	3800	48	7.5	11/1	2.4	6.1	5.8	
Murphy Lake R. S.	3000	48	22.6		18.6			
Raven	3050	48	23.0	11/1	12.1		16.8	
Flathard								
Flathead	E (0 0	E /.	0 /	10/20	/. 7	6 0	6.6	
Desert Mountain	5600	54	8.4 6.5		4.7 3.1	6.9 3.3	4.5	
Marias Pass	5250	54	0.0	10/29	3.1	3.3	4.5	
Clark Fork								
Black Pine	7100	48	10.0	10/30	7.4		7.9	
Lubrecht Forest	4100	48	26.8		13.6		14.2	
Seeley Lake R. S.	4030	48	11.9	11/5	4.0		4.4	
Skalkaho Summit	7260	48	10.8	10/31	9.6	9.9	10.1	
Bitterroot								
Gibbons Pass	7100	48	7.1	10/31	3.1	3.9	4.9	
Lolo Pass	5250	48	10.6	10/30	2.7		5.3	
	MISSOURI	RIVER	BASIN					
Beaverhead								
Lakeview	6700	48	15.3	10/31	0 2	14.3	8.3	
Lakeview	6700	40	15.5	10/31	8.2	14.3	0.3	
Madison								
West Yellowstone	6700	48	6.5	10/29	1.8	3.0	2.8	
Gallatin								
Bridger Bowl	7250	48	17.0	10/31	15.0	15.3	15.5	
College Site No. 2	4856	54	17.7	11/1	13.6	12.0	10.9	
Lick Creek	6860	48	18.8	10/30			17.2	
Twenty-One Mile	7150	48	10.0	10/29	3.2	6.6	5.3	
Missouri Main Cham								
Missouri Main Stem Kings Hill	7420	48	11.8	11/1	9.5	8.6	7.5	
Stemple Pass	6350	46 48	5.9	11/1	3.1	4.1	4.0	
Scemple rass	0230	40	2.9	11/1	3.1	4.1	4.0	
Milk								
Beaver Creek	3950	48	20.9	10/30	7.6	7.3	7.4	
Rocky Boy	4700	36	10.1	10/30	8.2	6.3	7.5	
Yellowstone								
Battle Ridge	6020	48	17.6	10/31	8.4	9.7	11.9	
Northeast Entrance	7350	48	9.4	10/29	4.0	5.5	6.7	
PMC Dryland	3700	48	20.7	10/28	5.5	7.1	-	



			1	Date of		1	(Inches)
N ame	Elevation	Depth	Capacity	Survey	This Year	Last Year	Average †
	COLUMBIA	RIVER	BASIN				
Kootenai							
Baree Trail	3800	48	7.5	12/2	6.3	6.6	6.2
Murphy Lake R. S.	3000	48	22.6	12/1	18.8	19.2	19.2
Raven	3050	48	23.0	12/2	14.2	15.8	18.3
Flathead							
Desert Mountain	5600	54	8.4	-	-	-	-
Marias Pass	5250	54	6.5	11/26	3.8	5.2	4.8
Clark Fork							
Black Pine	7100	48	10.0	12/2	7.2	8.1	7.9
Lubrecht Forest	4100	48	26.8	12/4	13.8	14.9	14.6
Seeley Lake R. S.	4030	48	11.9	12/2	4.4	7.2	5.5
Skalkaho Summit	7260	48	10.8	12/2	9.4	10.0	-
Bitterroot							
Gibbons Pass	7100	48	7.1	•			4.9
Lolo Pass	5250	48	10.6	11/27	3.2	6.6	6.0
	MISSOURI	RIVER	BASIN				
Beaverhead							
Lakeview	6700	48	15.3	12/2	8.2	17.5	9.3
Madison	(700	4.0		11/00		0.0	•
West Yellowstone	6700	48	6.5	11/28	1.7	3.0	2.8
Gallatin	7050		17.0	10/2	1/ 0	15.0	15 5
Bridger Bowl	7250	48	17.0	12/3	14.9	15.3	15.5
College Site No. 2	4856	54	17.7	11/29	15.2		12.7
Lick Creek	6860	48	18.8	12/3	12.9	15.6	16.5
Twenty-One Mile	7150	48	10.0	11/30	3.1	8.3	4.7
Missouri Main Stem	7/00	4.0	11 0	11/20	7 7	0 5	7 (
Kings Hill	7420	48	11.8	11/29	7.7	8.5	7.4
Stemple Pass	6350	48	5.9	12/2	3.2	5.0	4.1
Milk Bannar Craak	2050	/. O '	20.0	11/25	7 /	7 5	7 5
Beaver Creek	3950 4700	48 ' 3 6	20.9 10.1	11/25 11/25	7.4 9.4	7.5 7.6	7.5 7.5
Rocky Boy	4700	30	10.1	11/25	9.4	/.0	1.5
Yellowstone	6020	/. u	17 6	19/2	0.5	12.1	12.8
Battle Ridge	6020	48 40	17.6	1 2/ 3	9.5		
Northeast Entrance	7350	48	9.4	12/1	3.9	5.8	6.7
PMC Dryland	3700	48	20.7	12/2	7.7	7.5	-



SOIL MOISTURE January 1, 1975

DRAINAGE BASIN and/or ST			ile (Inches)	Date of	<u></u>	il Moisture (Ir		
Name	Elevation	Depth	Capacity	Survey	This Year	Last Year	Average +	
	COLUMBIA	A RIVER	RBASIN					
Kootenai								
Baree Trail	3800	48	7.5			6.4	6.5	
Murphy Lake R. S.	3000	48	22.6	1/2	19.2	19.7	19.4	
Raven	3050	48	23.0	-	-	15.4	18.0	
Flathead								
Desert Mountain	5600	54	8.4		5.8		7.0	
Marias Pass	5250	54	6.5	12/29	3.9	5.2	4.8	
Clark Fork								
Black Pine	7100	48	10.0	12/31	7.0	8.2	7.5	
Lubrecht Forest	4100	48	26.8	1/2	13.7	15.1	13.7	
Seeley Lake R. S.	4030	48	11.9	1/2	4.8	8.1	6.2	
Skalkaho Summit	7260	48	10.8	12/30	9.5	-	-	
Bitterroot								
Gibbons Pass	7100	48	7.1	12/30			4.7	
Lolo Pass	5250	48	10.6	12/24	3.3	6.2	6.0	
	MISSOURI	RIVER	BASIN					
Beaverhead					**			
Lakeview	6700	48	15.3	1/2	8.2	17.3	9.2	
Madison								
West Yellowstone	6700	4.8	6.5	1/1	1.7	3.0	2.7	
Gallatin								
Bridger Bowl	7250	48	17.0	12/27	15.0	15.2	15.6	
College Site No. 2	4856	54	17.7	1/3	15.2	16.1	12.9	
Lick Creek	6860	48	18.8	12/31	13.2	15.1	16.0	
Twenty-One Mile	7150	48	10.0	12/31	3.1	8.0	4.6	
Missouri Main Stem								
Kings Hill	7420	48	11.8	12/30	7.4	8.5	7.0	
Stemple Pass	6350	48	5.9	12/31	3.4	4.9	4.0	
Mi1k								
Beaver Creek	3950	48	20.9	12/31	7.5	7.7	7.4	
Rocky Boy	4700	36	10.1	12/31	8.3	8.7	7.1	
Yellowstone								
Battle Ridge	6020	48	17.6	12/27	8.8	13.9	12.8	
Northeast Entrance	7350	48	9.4	12/26	3.7	5.8	6.4.	
PMC Dryland	3700	48	20.7	12/30	6.9	6.9	-	



RESERVOIR STORAGE (Thousand Acre Feet) END OF MONTH

Basin or Stream	RESERVOIR	Usable		Usable Storage	
Basin or Stream	- Newstron	Capacity	This Year	Last Year	Average
COLUMBIA RIVER B	ASIN				
Kootenai	Koocanusa	4,965.0	2,922.0		-
Flathead	Hungry Horse	3,428.0	2,162.0		2,766.0
	Flathead Lake	1,791.0	1,479.0		1,423.0
	Camas (4)	45.2	16.8		22.1
	Mission Valley (8)	100.3	27.2		31.4
Clark Fork	Georgetown Lake	31.0	25.7		27.9
	Lower Willow Creek	4.6	1.1	0.7	1.1
	Nevada Creek	12.6	-	-	4.3
	Noxon Rapids	334.6	321.2	295.4	320.5
Bitterroot	Como	34,9	4.8	-	8.0
	Painted Rocks	31.7	-	0.0	23.5
MISSOURI RIVER B	ASIN				
Beaverhead	Clark Canyon	328.9	97.6	133.9	138.9
	Lima	84.0	41.7	49.3	31.2
Ruby	Ruby	38.8	-	-	20.0
Madison	Hebgen Lake	377.5	249.5	229.8	201.9
	Ennis Lake	41.0	33.9	36.1	36.7
Gallatin	Middle Creek	8.0	3.1	3.2	3.0
Missouri	Canyon Ferry	2,043.0	1,687.0	1,773.0	1,717.0
	Hauser & Helena	61.9	63.6	62.5	59.6
	Lake Helena	10.4	11.1	10.7	9.6
	Holter Lake	81.9	81.2	78.3	71.3
	Smith River	10.7	9.2	1.8	5.7
	Bair	7.0	E 0	0.8	/. 0
	Dall	/.0	5.9	0.0	4.0
	Martinsdale	23.1	14.7	4.8	7.6
	Martinsdale	23.1	14.7	4.8 29.8	7.6
Sun	Martinsdale Deadman's Basin	23.1 72.2	14.7 44.4	4.8 29.8 15,720.0	7.6 41.2 13,450.0
Sun	Martinsdale Deadman's Basin Fort Peck Lake	23.1 72.2 19,410.0 105.0	14.7 44.4 16,290.0	4.8 29.8 15,720.0	7.6 41.2 13,450.0 36.9
Sun	Martinsdale Deadman's Basin Fort Peck Lake Gibson	23.1 72.2 19,410.0	14.7 44.4 16,290.0 56.3	4.8 29.8 15,720.0 17.5 18.9	7.6 41.2 13,450.0
	Martinsdale Deadman's Basin Fort Peck Lake Gibson Willow Creek	23.1 72.2 19,410.0 105.0 32.3	14.7 44.4 16,290.0 56.3 24.2	4.8 29.8 15,720.0 17.5 18.9	7.6 41.2 13,450.0 36.9 18.6
	Martinsdale Deadman's Basin Fort Peck Lake Gibson Willow Creek Pishkun	23.1 72.2 19,410.0 105.0 32.3 32.0	14.7 44.4 16,290.0 56.3 24.2	4.8 29.8 15,720.0 17.5 18.9	7.6 41.2 13,450.0 36.9 18.6
	Martinsdale Deadman's Basin Fort Peck Lake Gibson Willow Creek Pishkun Lower Two Medicine	23.1 72.2 19,410.0 105.0 32.3 32.0 16.6	14.7 44.4 16,290.0 56.3 24.2	4.8 29.8 15,720.0 17.5 18.9	7.6 41.2 13,450.0 36.9 18.6
	Martinsdale Deadman's Basin Fort Peck Lake Gibson Willow Creek Pishkun Lower Two Medicine Four Horns Swift	23.1 72.2 19,410.0 105.0 32.3 32.0 16.6 19.2 30.0	14.7 44.4 16,290.0 56.3 24.2 17.9	4.8 29.8 15,720.0 17.5 18.9 3.8 - - 8.6	7.6 41.2 13,450.0 36.9 18.6 17.7
	Martinsdale Deadman's Basin Fort Peck Lake Gibson Willow Creek Pishkun Lower Two Medicine Four Horns	23.1 72.2 19,410.0 105.0 32.3 32.0 16.6 19.2 30.0 112.0	14.7 44.4 16,290.0 56.3 24.2 17.9 - 7.5 30.7	4.8 29.8 15,720.0 17.5 18.9 3.8 - - 8.6 34.2	7.6 41.2 13,450.0 36.9 18.6 17.7 - 14.1 78.1
Marias	Martinsdale Deadman's Basin Fort Peck Lake Gibson Willow Creek Pishkun Lower Two Medicine Four Horns Swift Lake Frances Tiber	23.1 72.2 19,410.0 105.0 32.3 32.0 16.6 19.2 30.0 112.0 1,347.0	14.7 44.4 16,290.0 56.3 24.2 17.9	4.8 29.8 15,720.0 17.5 18.9 3.8 - - 8.6	7.6 41.2 13,450.0 36.9 18.6 17.7
Marias	Martinsdale Deadman's Basin Fort Peck Lake Gibson Willow Creek Pishkun Lower Two Medicine Four Horns Swift Lake Frances Tiber Beaver Creek	23.1 72.2 19,410.0 105.0 32.3 32.0 16.6 19.2 30.0 112.0 1,347.0 3.5	14.7 44.4 16,290.0 56.3 24.2 17.9 - 7.5 30.7 507.7	4.8 29.8 15,720.0 17.5 18.9 3.8 - 8.6 34.2 509.8	7.6 41.2 13,450.0 36.9 18.6 17.7 - 14.1 78.1 579.1
Marias	Martinsdale Deadman's Basin Fort Peck Lake Gibson Willow Creek Pishkun Lower Two Medicine Four Horns Swift Lake Frances Tiber Beaver Creek Fresno	23.1 72.2 19,410.0 105.0 32.3 32.0 16.6 19.2 30.0 112.0 1,347.0 3.5 127.2	14.7 44.4 16,290.0 56.3 24.2 17.9 - 7.5 30.7 507.7 - 90.1	4.8 29.8 15,720.0 17.5 18.9 3.8 - - 8.6 34.2 509.8 - 11.0	7.6 41.2 13,450.0 36.9 18.6 17.7 - 14.1 78.1 579.1
Marias	Martinsdale Deadman's Basin Fort Peck Lake Gibson Willow Creek Pishkun Lower Two Medicine Four Horns Swift Lake Frances Tiber Beaver Creek Fresno Nelson	23.1 72.2 19,410.0 105.0 32.3 32.0 16.6 19.2 30.0 112.0 1,347.0 3.5 127.2 66.8	14.7 44.4 16,290.0 56.3 24.2 17.9 - 7.5 30.7 507.7 - 90.1 50.2	4.8 29.8 15,720.0 17.5 18.9 3.8 - - 8.6 34.2 509.8 - 11.0 20.4	7.6 41.2 13,450.0 36.9 18.6 17.7 - 14.1 78.1 579.1 - 59.0 44.4
Marias Milk	Martinsdale Deadman's Basin Fort Peck Lake Gibson Willow Creek Pishkun Lower Two Medicine Four Horns Swift Lake Frances Tiber Beaver Creek Fresno Nelson Lake Sherburne	23.1 72.2 19,410.0 105.0 32.3 32.0 16.6 19.2 30.0 112.0 1,347.0 3.5 127.2 66.8 66.1	14.7 44.4 16,290.0 56.3 24.2 17.9 - 7.5 30.7 507.7 - 90.1 50.2 15.3	4.8 29.8 15,720.0 17.5 18.9 3.8 - 8.6 34.2 509.8 - 11.0 20.4 27.0	7.6 41.2 13,450.0 36.9 18.6 17.7 - 14.1 78.1 579.1 - 59.0 44.4 16.5
Sun Marias Milk Yellowstone	Martinsdale Deadman's Basin Fort Peck Lake Gibson Willow Creek Pishkun Lower Two Medicine Four Horns Swift Lake Frances Tiber Beaver Creek Fresno Nelson Lake Sherburne Mystic Lake	23.1 72.2 19,410.0 105.0 32.3 32.0 16.6 19.2 30.0 112.0 1,347.0 3.5 127.2 66.8 66.1 20.8	14.7 44.4 16,290.0 56.3 24.2 17.9 - 7.5 30.7 507.7 - 90.1 50.2 15.3 9.7	4.8 29.8 15,720.0 17.5 18.9 3.8 - - 8.6 34.2 509.8 - 11.0 20.4 27.0 15.1	7.6 41.2 13,450.0 36.9 18.6 17.7 - 14.1 78.1 579.1 - 59.0 44.4 16.5 14.1
Marias Milk	Martinsdale Deadman's Basin Fort Peck Lake Gibson Willow Creek Pishkun Lower Two Medicine Four Horns Swift Lake Frances Tiber Beaver Creek Fresno Nelson Lake Sherburne Mystic Lake Tongue River	23.1 72.2 19,410.0 105.0 32.3 32.0 16.6 19.2 30.0 112.0 1,347.0 3.5 127.2 66.8 66.1 20.8 68.0	14.7 44.4 16,290.0 56.3 24.2 17.9 - 7.5 30.7 507.7 - 90.1 50.2 15.3 9.7 28.8	4.8 29.8 15,720.0 17.5 18.9 3.8 - 8.6 34.2 509.8 - 11.0 20.4 27.0	7.6 41.2 13,450.0 36.9 18.6 17.7 - 14.1 78.1 579.1 - 59.0 44.4 16.5 14.1 25.8
Marias Milk	Martinsdale Deadman's Basin Fort Peck Lake Gibson Willow Creek Pishkun Lower Two Medicine Four Horns Swift Lake Frances Tiber Beaver Creek Fresno Nelson Lake Sherburne Mystic Lake	23.1 72.2 19,410.0 105.0 32.3 32.0 16.6 19.2 30.0 112.0 1,347.0 3.5 127.2 66.8 66.1 20.8	14.7 44.4 16,290.0 56.3 24.2 17.9 - 7.5 30.7 507.7 - 90.1 50.2 15.3 9.7	4.8 29.8 15,720.0 17.5 18.9 3.8 - - 8.6 34.2 509.8 - 11.0 20.4 27.0 15.1	7.6 41.2 13,450.0 36.9 18.6 17.7 - 14.1 78.1 579.1 - 59.0 44.4 16.5 14.1



SNOW		THIS YEAR		PAST RECORD		
DRAINAGE BASIN and/or SNOW COURSE		Date	Snow Depth	Water Content	Water Conte	nt (inches)
NAME	Elevation	of Survey	(Inches)	(Inches)	Last Year	Average
Augusta La	_					
ARCH FALLS	7350	12/31	28	6.7	5.8	5.5
BATTLE RIDGE	6020	12/27	11	2.2	4.4	3.0
BFAR PAW SKI AREA	5200	12/31	13	2.4	2.3	2.6
BIG COULEE BLACK BEAR	5100	1/02	11	2.5	2.4	-
BLACK BEAR PILLOW	7950	12/30	48	10.7	24.9	-
BI ACK PINE	7950	12/30	SP	10.4	22.5	-
BLACK PINE PILLOW	7100 7100	12/31	17	3.7	7.2	3.4
BRIDGER BOWL	7250	12/26	SP	3.9	6.8	5.4
BRIDGER BOWL PILLOW	7250	12/27	31	7.8	12.0	12.0
BILL MOUNTAIN	6600	1/02	SP 10	7.5	13.4	13.2
CANYON (WY)	7750	1/01	19	1.9 3.2	7 1	
CARROT BASIN	9000	1/02	49	12.9	7.1	6.1
CARROT BASIN PILLOW	9000	1/02	SP	9.1	21.7	17.0
CHESSMAN RESERVOIR	6200	12/27	4	•8	17.3	10.9
COLE CREEK	7850	12/24	35	9.8	1.00	1.3
COLE CREEK PILLOW	7850	12/24	SP	8.6		_
COMBINATION	5600	12/31	6	• 8	4.8	2.6
COMBINATION PILLOW	5600	12/31	SP	1.5	4.4	
COOKE STATION	8150	12/26	26	6.0	7.6	
COYOTE HILL	4200	1/02	19	3.8	4.6	4.5
DALY CREEK	5780	1/02	17	3.4	w 1	
DEADMAN CREEK	6450	12/30	20	4.6	4.8	4.3
DEADMAN CREEK PILLOW	6450	12/30	SP	4.5	5.9	4.8
DESERT MOUNTAIN	5600	12/30	23	6.0	10.8	7.3
DEVILS SLIDE	8100	12/31	42	10.7	11.3	10.1
DIX HILL	6400	12/30	13	2.6	-	
FISHER CREEK	9100	12/26	44	10.8	18.1	14.4
FISHER CREEK PILLOW	9100	12/26	SP	11.2	19.2	14.8
FIFECER RIDGE	7500	1/02	16	3.2	-	-
FROHNER MEADOWS	6480	12/26	10	2.3	4.4	69
FROHNER MEADOWS PILLOW	6480	12/26	SP	2.4	4.6	-
GIBBONS PASS	7100	12/30	36	6.8	11.5	9.5
GRIZZLY PEAK	8400	12/24	34	9.5	6.9	8.7
HEART LAKE TRAIL	4800	12/27	40	8.3	11.7	8.7
HEBGEN DAM	6550	1/02	23	4.6	6.2	4.6
HIGHWOOD DIVIDE	5650	1/02	14	3.5	4.3	-
HTGHWOOD STATION	4600	1/02	8	1.5	1.1	-
HOOD MEADOW	6600	12/31	25	6.2	4.7	4.5
HOODOO BASIN	6000	12/27	66	17.0	30.0	20.8
HOODOO CREEK	5900	12/27	63	13.9	24.9	18.9
KIWANIS CAMP	3720	12/31	9	1.2	• 0	-
LAKE CAMP (WY)	7850	12/31	15	1.8	4.7	3.5
LAKE CREEK	6100	1/02	21	3.8	4.4	-
LAKEVIEW CANYON	6930	12/31	22	4.0	6.7	5.4
LAKEVIEW RIDGE	7400	12/31	19	3.6	6.7	5.0
LICK CREEK	6860	12/31	25 SB	4.9	4.2	3.9
LICK CREEK PILLOW	6860	12/31	SP	4.8	4.0	4.0



SNOW		THIS YEAR	Y	PAST RECORD		
DRAINAGE BASIN and/or SNOW COURSE		Date	Snow Depth	Water Content	Water Conte	nt (inches)
NAME.	Elevation	of Survey	(Inches)	(Inches)	Last Year	Average
LAST HADSE	E040	10/71	E 0	11 1	177	12 0
LOST HORSE LUBRECHT FLUME	5940	12/31	50 9	11.1	17.3 3.5	12.0 3.1
LUBRECHT FLUME PILLOW	4800 4800	12/31	SP	1.2	2.7	2.5
LUPRECHT FOREST # 3	5450	12/31	10	2.0	2.8	13.2
LUBRECHT FOREST # 4	4650	12/31	6	1.0	1.8	1.8
LUBRECHT FOREST # 6	4040	1/02	6	1.0	2.6	1.8
LUBRECHT HYDROPLOT	4200	12/31	9	1.6	4.0	2.7
LIPINE CREEK (WY)	7300	12/31	16	3.2	5.0	4.4
MADISON PLATEAU	7750	12/30	32	6.0	13.4	8.7
MADISON PLATEAU PILLOW	7750	12/30	SP	6.9	14.1	9.4
MARIAS PASS	5250	12/30	25	5.3	7.4	7.7
MAYNARD CREEK	6210	12/27	17	3.7	6.9	7.4
MAYNARD CREEK PILLOW	6210	12/27	SP	2.9	5.4	5.4
NoISY BASIN	6040	12/31	62	16.5	-	•
NOISY BASIN PILLOW	6040	12/31	SP	14.5	-	***
NOPRIS BASIN (WY)	7500	1/01	16	2.5	4.9	4.6
NORTH FK. ELK CREEK	6250	1/02	15	2.9	5.9	5.6
NORTH FK. ELK CREEK PILL	6250	1/02	SP	2.2	5.4	4.7
NORTHEAST ENTRANCE	7400	12/31	17	2.6	4.0	3.6
NORTHEAST ENTRANCE PILL.	7400	12/26	SP	3.0	4.0	4.0
OPHIR PARK	7150	12/30	21	4.7	•	-
PFTERSON MEADOWS	7200	12/25	15	3.2	5.8	-
PFTERSON MEADOWS PILLOW	7200	12/26	SP	3.3	5.7	•
PICKET PIN LOWER	6200	1/02	7	1.7	. 8	
PICKET PIN MIDDLE	7250	1/02	26	6.6	3.6	100
PICKET PIN UPPER	8100	1/02	36	11.0	8.0	•
PIPESTONE PASS	7200	1/02	13	3.1	2.2	2.3
ROCKER PEAK	8000	12/26	23	4.9	7.0	6 • 8
ROCKER PEAK PILLOW	8000	12/26	SP	5.0 1.2	8.0 2.1	7.2 1.6
ROCKY BOY	4700 4700	12/31	11 SP	1.6	.8	1.4
ROCKY BOY PILLOW	7940	12/30	40	8.6	11.9	10.3
SADDLE MOUNTAIN	7940	12/30	SP	9.3	15.6	11.6
SADDLE MOUNTAIN PILLOW SHOWER FALLS	8100	12/31	45	11.7	12.3	11.0
SHOWER FALLS PILLOW	8100	12/31	SP	11.6	11.3	11.5
SPUR PARK	8000	12/30	31	8.4	10.0	9.8
SPUR PARK PILLOW	8100	12/30	SP	9.0	11.9	10.2
STORM LAKE	7780	12/26	21	3.7	5.3	5.6
SUCKER CREEK	3960	12/31	0	. 0	. 2	-
SYLVAN PASS (WY)	7100	1/02	18	3.5	7.6	5.7
TAYLOR ROAD	4080	12/31	10	1.2	2.2	m
FN MILE LOWER	6600	12/28	13	2.3	2.6	3.1
TEN MILE MIDDLE	6800	12/28	21	3.7	4.0	4.9
IFN MILE UPPER	8000	12/28	21	4.3	5.4	6.0
TFPEE CREEK	8000	1/02	29	6.2	8.2	~
TEPEE CREEK PILLOW	8000	1/02	SP	5.2	7.3	168
THUMB DIVIDE (WY)	7900	12/30	25	3.9	11.1	9.2
TV MOUNTAIN	6800	1/03	25	5.6	10.2	8.0
TWELVEMILE CREEK	5600	12/31	37	7.4	12.6	7.2
TWELVEMILE CREEK PILLOW	5600	12/31	SP	7.0	11.9	6.2
		-10-				



SNOW	/	THIS YEAR	Y	PAST RECORD		
ORAINAGE BASIN and/or SNOW COURSE		Date	Snow Depth	Water Content	Water Conte	nt (inches)
NAME	Elevation	of Survey	(Inches)	(Inches)	Last Year	Average
TWENTY-ONE MILE	7150	1/02	25	4.9	10.2	7.
TWIN LAKES	6510	12/31	64	14.1	20.6	15.
TWIN LAKES PILLOW	6400	12/31	SP	14.2	22.8	16.
WEST YELLOWSTONE	6700	1/02	19	3.3	6.6	4.
WEST YELLOWSTONE PILLOW	6700	1/01	SP	2.1	6.0	3.
WHISKEY CREEK	6800	12/31	30	5.0	11.0	_
WHISKEY CREEK PILLOW	6800	12/31	SP	4.8	9.8	-
WHITE MILL	8700	12/26	32	7.6	12.4	-
WHITE MILL PILLOW	8700	12/26	SP	6.9	12.3	***
WILLOW CREEK	6500	12/24	16	3.3	•	000
BIG SKY M.V.	7450	1/1	27	5.8	9.5	_
BIG SKY M.V.	7450	1/1	27	5.8	9.5	_
BIG SPRINGS (ID)	6500	12/30	32	5.0	10.6	7.
CAMP CREEK (ID)	6800	12/31	19	3.8	4.6	4.
DAVIS	5400	1/7	56	16.1	16.8	_
GARVER CREEK	4250	1/7	30	6.2	7.9	5.
HAWKINS LAKE	6450	1/7	64	19.6	21.7	14.
HOODOO BASIN PILLOW	6000	12/31	SP	18.1	-	19.
ISLAND PARK (ID)	6310	12/30	30	4.4	8.8	6.
LOLO PASS (ID)	5230	12/31	48	10.7	15.2	11.
LONE MOUNTAIN	8880	1/1 12/ 3 0	37 54	8.0 13.6	18.1	15.
LOOKOUT (ID)	5250 5250	12/30	25	5.3	7.4	7,
MARIAS PASS	6200	1/2	28	5.2	9.7	5.
MOOSE CREEK (ID) SAVAGE PASS (ID)	6600	12/30	39	8.8	13.0	8.
TARCHEE PASS (ID)	7000	12/30	24	3.7	6.3	6.
TOGWOTEE PASS (WY)	9600	12/31	41	10.5	16.3	-
INTERIOR TENE	6500	10/20	27.	2 5	7 /	6

12/30

12/30

6500

7700

24

33

3.5

5.8

7.4

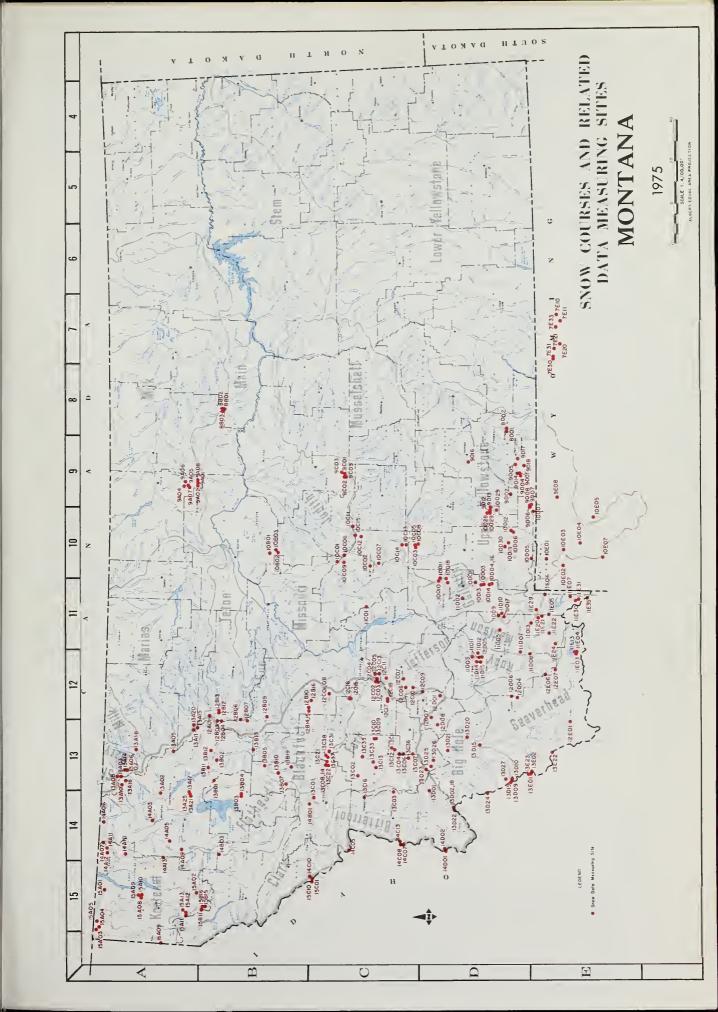
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VALLEY VIEW (ID)

WHITE ELEPHANT (ID)





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Agencies and Organizations Cooperating in Montana Snow Surveys

GOVERNMENT AGENCIES

Canada:

Water Survey of Canada, Calgary, Department of the Environment Water Resources Service, Department of Lands, Forests and Water Resources, British Columbia

Federal:

Department of the Army
Corps of Engineers
U.S. Department of Agriculture
Forest Service

U.S. Department of Commerce NOAA, National Weather Service

Soil Conservation Service

U.S. Department of the Interior
Bonneville Power Administration
Bureau of Indian Affairs
Bureau of Reclamation
Bureau of Sports Fisheries and Wildlife
Geological Survey
National Park Service

STATE

Montana Association of Conservation Districts
Montana Department of Fish and Game
Montana Department of Natural Resources and
Conservation
Montana Water Resources Board
Montana State University - Agricultural Experiment
Station
North Montana Branch Station - Agricultural Experiment
iment Station
University of Montana - School of Forestry

PRIVATE

Montana Power Company

Other organizations and individuals furnish valuable information for snow survey reports. Their cooperation is gratefully acknowledged.

UNITED STATES DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

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